

In the Drawings:

In Figure 10, add the designation, "Invention of another" as shown in red on the attached copy of the drawing.

In the Claims:

Add the following claims:

--41. An apparatus for increasing the flow of blood in a patient, the apparatus comprising:

- (A) a base contoured to seat near a central region of a patient's chest;
- (B) an actuator;
- (C) a substantially inelastic belt configured to wrap around said patient's chest;
- (D) tightening means, mounted on said base, coupled to said actuator, and having belt connectors coupled to opposite extremities of said belt, for (1) converting a force applied to said actuator into belt tightening resultant forces applied to said belt connectors directed substantially tangentially to said chest and (2) releasing said resultant forces to a minimal level; and
- (E) indicator means, coupled to said tightening means, for providing an indication of when said tightening means has released said resultant forces to said minimal level.

42. The apparatus of Claim 41 wherein said actuator is a manual actuator and said force is manually applied to said actuator.

43. The apparatus of Claim 42 wherein said force converter also converts said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

44. The apparatus of Claim 42 wherein said manual actuator comprises first and second hand grippable handles.

45. The apparatus of Claim 42 further comprising defibrillating means coupled to said base.

46. The apparatus of Claim 45 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

47. The apparatus of Claim 42 further including a rigid, substantially planar backboard and wherein said belt includes two separate portions with one end of each of said portions attached to said board.

48. The apparatus of Claim 47 wherein the other ends of said portions of said belt are attachable to and removable from said force converter.

49. The apparatus of Claim 42 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

50. A method of CPR treating patients comprising:

- (A) seating a base of a blood flow increasing apparatus on a patient's chest near a central region of said chest;
- (B) wrapping a belt with first and second opposite extremities around said patient's chest;
- (C) fastening to said apparatus any of said extremities of said belt not already fastened to said apparatus;

- (D) applying a force, directed toward said chest, to an actuator coupled to a converter coupled to said base and said belt;
- (E) converting said force into belt tightening resultants directed substantially tangentially to said chest;
- (F) releasing said resultant forces to a minimal level;
- (G) receiving an indication from said actuator that said tightening means has released said resultant forces to said minimal level: and
- (H) after receiving said indication from said actuator, again applying a force, directed toward said chest, to said actuator.

51. The method of Claim 50 further including periodically repeating steps (D) to (H).

52. The method of Claim 51 wherein said force is manually applied to said actuator.

53. The method of Claim 52 further including converting said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

54. The method of Claim 52 wherein applying said force includes manually gripping said first and second hand grippable handles.

55. The method of Claim 52 further comprising defibrillating the chest of said patient undergoing CPR.

56. The method of Claim 55 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

57. The method of Claim 52 wherein said belt includes two separate portions and further including attaching one end of each of said portions to a rigid, substantially planar backboard.

58. The method of Claim 57 further including attaching the other ends of said portions of said belt to said apparatus.

59. The method of Claim 52 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

60. An apparatus for increasing the flow of blood in a patient, the apparatus comprising:

- (A) a base contoured to seat near a central region of a patient's chest;
- (B) an actuator;
- (C) a substantially inelastic belt configured to wrap around said patient's chest;
- (D) tightening means, mounted on said base, coupled to said actuator, and having belt connectors coupled to opposite extremities of said belt, for (1) converting a force applied to said actuator into belt tightening resultant forces applied to said belt connectors directed substantially tangentially to said chest and (2) releasing said resultant forces to a minimal level; and
- (E) stop means, coupled to said tightening means, for, after said tightening means has converted a force applied to said actuator into said belt tightening resultant forces, preventing said tightening means from converting a force subsequently applied to said actuator into said belt tightening resultant forces until said tightening means has released said resultant forces to said minimal level.

61. The apparatus of Claim 60 wherein said safety means for limiting the magnitude of the belt tightening resultants limits the magnitude to a preselected one of a plurality of magnitudes.

62. The apparatus of Claim 60 wherein said actuator is a manual actuator and said force is manually applied to said actuator.

63. The apparatus of Claim 62 wherein said force converter also converts said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

64. The apparatus of Claim 62 wherein said manual actuator comprises first and second hand grippable handles.

65. The apparatus of Claim 83 further comprising defibrillating means coupled to said base.

66. The apparatus of Claim 65 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

67. The apparatus of Claim 62 further including a rigid, substantially planar backboard and wherein said belt includes two separate portions with one end of each of said portions attached to said board.

68. The apparatus of Claim 67 wherein the other ends of said portions of said belt are attachable to and removable from said force converter.

69. The apparatus of Claim 62 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

70. A method of CPR treating patients comprising:

(A) seating a base of a blood flow increasing apparatus on a patient's chest near a central region of said chest;

- (B) wrapping a belt with first and second opposite extremities around said patient's chest;
- (C) fastening to said apparatus any of said extremities of said belt not already fastened to said apparatus;
- (D) applying a force, directed toward said chest, to an actuator coupled to a converter coupled to said base and said belt;
- (E) converting said force into belt tightening resultants directed substantially tangentially to said chest;
- (F) releasing said resultant forces to a minimal level;
- (G) preventing said tightening means from converting a force subsequently applied to said actuator into said belt tightening resultant forces until said tightening means has released said resultant forces to said minimal level; and
- (H) after said tightening means has released said resultant forces to said minimal level, again applying a force, directed toward said chest, to said actuator.

71. The method of Claim 70 further including selecting said specific magnitude of said belt tightening resultants from a plurality of selectable magnitudes.

72. The method of Claim 71 further including periodically repeating steps (D) to (H).

73. The method of Claim 72 wherein said force is manually applied to said actuator.

74. The method of Claim 73 further including converting said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

75. The method of Claim 73 wherein applying said force includes manually gripping said first and second hand grippable handles.

76. The method of Claim 73 further comprising defibrillating the chest of said patient undergoing CPR.

77. The method of Claim 76 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

78. The method of Claim 73 wherein said belt includes two separate portions and further including attaching one end of each of said portions to a rigid, substantially planar backboard.

79. The method of Claim 78 further including attaching the other ends of said portions of said belt to said apparatus.

80. The method of Claim 73 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

81. An apparatus for increasing the flow of blood in a patient, the apparatus comprising:

- (A) a base contoured to seat near a central region of a patient's chest;
- (B) an actuator;
- (C) a substantially inelastic belt configured to wrap around said patient's chest; and
- (D) a force applicator, mounted on said base, coupled to said actuator, and having belt connectors coupled to opposite extremities of said belt, for (1) storing the energy from a force applied to said actuator and directed toward said chest and (2) upon the withdrawal of said force from said actuator, releasing said stored energy into belt tightening resultants applied to said belt connectors directed substantially tangentially to said chest.

82. The apparatus of Claim 81 wherein said safety means for limiting the magnitude of the belt tightening resultants limits the magnitude to a preselected one of a plurality of magnitudes.

83. The apparatus of Claim 82 wherein said actuator is a manual actuator and said force is manually applied to said actuator.

84. The apparatus of Claim 83 wherein said force converter also converts said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

85. The apparatus of Claim 83 wherein said manual actuator comprises first and second hand grippable handles.

86. The apparatus of Claim 83 further comprising defibrillating means coupled to said base.

87. The apparatus of Claim 86 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

88. The apparatus of Claim 83 further including a rigid, substantially planar backboard and wherein said belt includes two separate portions with one end of each of said portions attached to said board.

89. The apparatus of Claim 88 wherein the other ends of said portions of said belt are attachable to and removable from said force converter.

90. The apparatus of Claim 84 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

91. A method of CPR treating patients comprising:

(A) seating a base of a blood flow increasing apparatus on a patient's chest near a central region of said chest;

- (B) wrapping a belt with first and second opposite extremities around said patient's chest;
- (C) fastening to said apparatus any of said extremities of said belt not already fastened to said apparatus;
- (D) applying a force, directed toward said chest, to an actuator coupled to a converter coupled to said base and said belt;
- (E) storing the energy from said force applied to said actuator and directed toward said chest; and
- (F) upon the withdrawal of said force from said actuator, releasing said stored energy into belt tightening resultants applied to said belt connectors directed substantially tangentially to said chest.

92. The method of Claim 91 further including selecting said specific magnitude of said belt tightening resultants from a plurality of selectable magnitudes.

93. The method of Claim 92 further including periodically repeating steps (D) to (F).

94. The method of Claim 93 wherein said force is manually applied to said actuator.

95. The method of Claim 94 further including converting said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

96. The method of Claim 94 wherein applying said force includes manually gripping said first and second hand grippable handles.

97. The method of Claim 94 further comprising defibrillating the chest of said patient undergoing CPR.

98. The method of Claim 97 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

99. The method of Claim 94 wherein said belt includes two separate portions and further including attaching one end of each of said portions to a rigid, substantially planar backboard.

100. ✓ The method of Claim 99 further including attaching the other ends of said portions of said belt to said apparatus.

101. The method of Claim 94 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

102. An apparatus for increasing the flow of blood in a patient, the apparatus comprising:

- (A) a base contoured to seat near a central region of a patient's chest;
- (B) an actuator;
- (C) a substantially inelastic belt configured to wrap around said patient's chest;
and
- (D) a force converter, mounted on said base, coupled to said actuator, and having two belt connectors coupled to opposite extremities of said belt, for converting a force applied to said actuator and directed toward said chest into belt tightening resultants directed substantially tangentially to said chest to cause movement of said two belt connectors in the direction to tighten said belt around said patient, said converter including a toothed surface, coupled to said actuator, and gears, coupled to said belt connectors and engaged with said toothed surface, said force applied to said converter causing said toothed surface to move along said gears in a manner to move said two belt connectors in said direction to tighten said belt around said patient.

103. The apparatus of Claim 102 wherein said actuator is a manual actuator and said force is manually applied to said actuator.

104. The apparatus of Claim 103 wherein said force converter also converts said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

105. The apparatus of Claim 104 further comprising defibrillating means coupled to said base.

106. The apparatus of Claim 105 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

107. The apparatus of Claim 104 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

108. The apparatus of Claim 104 wherein said force converter converts said force applied to said actuator to cause said toothed surface to move along said gears in a manner to move said two said belt connectors substantially equally in said direction to tighten said belt around said patient.

109. The apparatus of Claim 104 wherein said actuator moves said two belt connectors in said direction to tighten said belt around said patient proportionally to the magnitude of the movement of said actuator toward said chest.

110. The apparatus of Claim 104 wherein said actuator moves said two belt connectors in said direction to tighten said belt around said patient nonproportionally to the magnitude of the movement of said actuator toward said chest.

111. The apparatus of Claim 104 wherein said toothed surface is a double sided ratchet and at least one of said gears is engaged with each side of said ratchet.
112. A method of CPR treating patients comprising:
 - (A) seating a base of a blood flow increasing apparatus on a patient's chest near a central region of said chest;
 - (B) wrapping a belt with first and second opposite extremities around said patient's chest;
 - (C) fastening to said apparatus any of said extremities of said belt not already fastened to said apparatus;
 - (D) applying a force, directed toward said chest, to an actuator coupled to a toothed surface of a converter coupled to said base, said toothed surface being engaged with gears coupled to said converter and said first and second opposite extremities of said belt;
 - (E) converting said force into motion of said toothed surface against said gears to move said gears in a direction to produce belt tightening resultants directed substantially tangentially to said chest and applied to said two belt extremities; and
 - (F) moving said two belt extremities in the direction to tighten said belt around said patient.
113. The method of Claim 112 further including periodically repeating steps (D) to (F).
114. The method of Claim 113 wherein said force is manually applied to said actuator.
115. The method of Claim 114 further including converting said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

116. The method of Claim 115 further comprising defibrillating the chest of said patient undergoing CPR.

117. The method of Claim 116 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

118. The method of Claim 115 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

119. The method of Claim 115 wherein said force is converted into motion of said toothed surface against said gears in said direction to produce said belt tightening resultants directed substantially tangentially to said chest and applied substantially equally to said two belt extremities and to move said two belt extremities substantially equally in said direction to tighten said belt around said patient.

120. The method of Claim 115 wherein said two belt extremities are moved in said direction to tighten said belt around said patient proportionally to the magnitude of the movement of said actuator toward said chest.

121. The method of Claim 115 wherein said two belt extremities are moved in said direction to tighten said belt around said patient nonproportionally to the magnitude of the movement of said actuator toward said chest.

122. The method of Claim 115 wherein said toothed surface is a double sided ratchet and at least one of said gears is engaged with each side of said ratchet.

123. An apparatus for increasing the flow of blood in a patient, the apparatus comprising:

- (A) a base contoured to seat near a central region of a patient's chest;
- (B) an actuator;
- (C) a substantially inelastic belt configured to wrap around said patient's chest and having opposite extremities; and

(D) a force converter, including first and second eccentrics each pivotally mounted at first pivots on said base and pivotally mounted at second pivots to said actuator, and having a belt connector coupled to one of said opposite extremities of said belt, for converting a force applied to said actuator and directed toward said chest into belt tightening resultants directed substantially tangentially to said chest to cause movement of said two belt connectors in the direction to tighten said belt around said patient, said force applied to said converter causing said eccentrics to move in a manner to move said two belt connectors in said direction to tighten said belt around said patient.

124. The apparatus of Claim 123 wherein said actuator is a manual actuator and said force is manually applied to said actuator.

125. The apparatus of Claim 124 wherein said force converter also converts said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

126. The apparatus of Claim 125 further comprising defibrillating means coupled to said base.

127. The apparatus of Claim 126 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

128. The apparatus of Claim 125 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

129. The apparatus of Claim 125 wherein said force converter converts said force applied to said actuator to cause said first and second eccentrics to move said two belt connectors substantially equally in said direction to tighten said belt around said patient.

130. The apparatus of Claim 125 wherein said actuator moves said two belt connectors in said direction to tighten said belt around said patient proportionally to the magnitude of the movement of said actuator toward said chest.

131. The apparatus of Claim 125 wherein said actuator moves said two belt connectors in said direction to tighten said belt around said patient nonproportionally to the magnitude of the movement of said actuator toward said chest.

132. A method of CPR treating patients comprising:

- (A) seating a base of a blood flow increasing apparatus on a patient's chest near a central region of said chest;
- (B) wrapping a belt with first and second opposite extremities around said patient's chest;
- (C) fastening to said apparatus any of said extremities of said belt not already fastened to said apparatus;
- (D) applying a force, directed toward said chest, to an actuator coupled to first and second eccentrics each pivotally mounted at first pivots on said base and pivotally mounted at second pivots to said actuator;
- (E) converting said force into motion of first and second eccentrics in a direction to produce belt tightening resultants directed substantially tangentially to said chest and applied to said two belt extremities; and
- (F) moving said two belt extremities in the direction to tighten said belt around said patient

133. The method of Claim 132 further including periodically repeating steps (D) to (F).

134. The method of Claim 133 wherein said force is manually applied to said actuator.

135. The method of Claim 134 further including converting said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

136. The method of Claim 135 further comprising defibrillating the chest of said patient undergoing CPR.

137. The method of Claim 136 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

138. The method of Claim 135 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

139. The method of Claim 135 wherein said force is converted into motion of said first and second eccentrics in said direction to produce said belt tightening resultants directed substantially tangentially to said chest and applied substantially equally to said two belt extremities and to move said two belt extremities substantially equally in said direction to tighten said belt around said patient.

140. The method of Claim 135 wherein said two belt extremities are moved in said direction to tighten said belt around said patient proportionally to the magnitude of the movement of said actuator toward said chest.

141. The method of Claim 135 wherein said two belt extremities are moved in said direction to tighten said belt around said patient nonproportionally to the magnitude of the movement of said actuator toward said chest.

142. An apparatus for increasing the flow of blood in a patient, the apparatus comprising:

- (A) a base contoured to seat near a central region of a patient's chest;

- (B) a manual actuator mounted on said base so that a force applied manually to said actuator toward said chest applies pressure to said base toward said chest;
- (C) a substantially inelastic belt configured to wrap around said patient's chest and having opposite extremities;
- (D) a powered belt tightener coupled to said base and said belt extremities and having on and off states and, when in said on state, moving said belt extremities in a direction to tighten said belt around said patient's chest; and
- (E) a switch, coupled to said belt tightener and said actuator, said switch, upon the application of force to said actuator toward said chest, placing said belt tightener in said on state.

143. The apparatus of Claim 142 wherein said force converter also converts said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

144. The apparatus of Claim 142 further comprising defibrillating means coupled to said base.

145. The apparatus of Claim 144 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

146. The apparatus of Claim 142 further comprising first and second spaced electrodes mounted to said apparatus for contacting two spaced outer chest surfaces with said first electrode being mounted to a base outer, chest-contacting surface and said second electrode being mounted to an apparatus chest-contacting surface which is spaced from said first electrode.

147. The apparatus of Claim 142 wherein said belt tightener, when in said on state, moves said two belt connectors substantially equally in said direction to tighten said belt around said patient.
148. The apparatus of Claim 147 wherein said belt tightener includes an electric motor.
149. The apparatus of Claim 147 wherein said belt tightener includes a fluid-pressure motor.
150. The apparatus of Claim 149 wherein said belt tightener includes a hydraulic motor.
151. The apparatus of Claim 149 wherein said belt tightener includes a pneumatic motor.
152. A method of CPR treating patients comprising:
 - (A) seating a base of a blood flow increasing apparatus on a patient's chest near a central region of said chest;
 - (B) wrapping a belt with first and second opposite extremities around said patient's chest;
 - (C) fastening to said apparatus any of said extremities of said belt not already fastened to said apparatus;
 - (D) manually applying a force, directed toward said chest, to an actuator coupled to a powered belt tightener coupled to said base and said belt extremities and having on and off states and, when in said on state, moving said belt extremities in a direction to tighten said belt around said patient's chest; and
 - (E) placing said belt tightener in said on state.
153. The method of Claim 152 further including periodically repeating steps (D) to (E).

154. The method of Claim 153 further including converting said force applied to said actuator and directed toward said chest into a chest compressing resultant directed through said base towards the chest.

155. The method of Claim 154 further comprising defibrillating the chest of said patient undergoing CPR.

156. The method of Claim 155 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

157. The method of Claim 152 further including contacting two spaced outer chest surfaces with a first electrode and a second electrode.

158. The method of Claim 152 wherein said belt tightener, when in said on state, produces said belt tightening resultants directed substantially tangentially to said chest and applied substantially equally to said two belt extremities and moves said two belt extremities substantially equally in said direction to tighten said belt around said patient.

159. The method of Claim 158 wherein said belt tightener includes an electric motor.

160. The method of Claim 158 wherein said belt tightener includes a fluid-pressure motor.

161. The method of Claim 160 wherein said belt tightener includes a hydraulic motor.

162. The method of Claim 160 wherein said belt tightener includes a pneumatic motor.

163. The method of Claim 158 wherein said belt tightener is placed in said on state by applying a force to said actuator towards said base.--

Cancel Claims 1 to 40.